REMARKS

In response to the Office Action of March 17, 2006, Applicants have amended the claims, which when considered with the following remarks, is deemed to place the present application in condition for allowance. Favorable consideration and allowance of all pending claims is respectfully requested. The amendments to the claims have been made in the interest of expediting prosecution of this case. Applicants reserve the right to prosecute the same or similar subject matter in this or another application.

Claims 1-75 are pending in this application. By this Amendment, Claims 1, 9, 18, 30, 43, 62 and 63 have been amended. Claims 1, 18, 43 and 63 have been amended to further define the invention by reciting that the stable colloidal suspension is substantially clear. Claims 9, 30, and 62 have been amended to clarify that the colloidal suspension has a turbidity of less than about 300 nephelometric turbidity units. Support for these amendments can be found throughout the specification, e.g., page 27, line 1 through page 30, line 14, and in the working examples. Applicants respectfully submit that no new matter has been added to the subject application by this amendment. Moreover, it is submitted that the claims as now presented place the subject application in condition for immediate allowance.

The Examiner has rejected Claims 1-75 under the judicially created doctrine of obviousness-type double patenting over Claims 1-19 of Harrison et al. U.S. Patent No. 6,632,781 ("Harrison et al."). This rejection is respectfully traversed.

When analyzing a reference employed in an obvious-type double patenting rejection the guidelines for the analysis parallels that of a 35 U.S.C. §103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991). Claims 1-19 of Harrison et al., which

the Examiner relies upon in rejecting the presently recited claims under the judicially created doctrine of obviousness-type double patenting, disclose a lubricant composition which comprises: a base oil of lubricating viscosity; a dispersed hydrated alkali metal borate; and a dispersant mixture. The lubricant composition can further comprise from about 0.001 moles to about 0.11 moles of a water soluble oxo anion per mole of boron (Claim 14), wherein the oxo anion is selected from the group consisting of nitrate, sulfate, carbonate, phosphate, pyrophosphate, silicate, aluminate, germanate, stannate, zincate, plumbate, titanate, molbydate, tungstate, vanadate, niobate, tantalate, uranate, isopolymolybdate, isopolytungstate, heteropolymolybdate, heteropolytungstates, and mixtures thereof (Claim 15). Thus, the water soluble oxo anion is present in very minor amounts, i.e., 0.001 moles to about 0.11 moles of the water soluble oxo anion per mole of boron.

In contrast thereto, independent Claims 1, 18, 43 and 63 recite, *inter alia*, a "stable colloidal suspension comprising: (a) a dispersed phase comprising *a major amount* of one or more dispersed hydrated polymeric compounds selected from the group consisting of polymolybdates, polytungstates, polyvanadates, polyniobates, polytantalates, polyuranates, and mixtures thereof; and, (b) an oil phase comprising one or more dispersing agents and a diluent oil, wherein the stable colloidal suspension is substantially clear." There is no suggestion or motivation in Harrison et al. to form a stable colloidal suspension comprising (a) a dispersed phase comprising a major amount of one or more the specifically recited dispersed hydrated polymeric compounds. Instead, Harrison et al. is only concerned with using a major amount of dispersed hydrated alkali metal borate and very minor amounts of an oxo anion. Thus, nothing in Harrison et al. would lead one skilled in the art to modify the lubricant composition disclosed

therein and arrive at the presently recited colloidal suspension. The presently recited claims to, *inter alia*, a colloidal suspension, are therefore considered to be patentably distinct from the claims of Harrison et al. Accordingly, the rejection of Claims 1-75 under the judicially created doctrine of obviousness-type double patenting is believed to be unwarranted and withdrawal of the rejection is respectfully requested.

The Examiner has rejected Claims 9, 30 and 62 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. Specifically, the Examiner maintains that it is unclear what the reduced color is relative to, e.g., a composition which is less dilute in color contributing compounds or some other things. While not necessarily agreeing with the Examiner, Claims 9, 30 and 62 have been amended to recite that the colloidal suspension has a turbidity of less than about 300 nephelometric turbidity units. Accordingly, amended Claims 9, 30 and 62 are believed to comply with the requirements of the second paragraph under 35 U.S.C. §112 and withdrawal of the rejection is respectfully requested.

The Examiner has rejected Claims 1-11, 14, 18-23, 26, 30-37, 39-51, 54 and 58-62 under 35 U.S.C. §102(b) as being anticipated by Ohtake et al. European Patent No. EP 271337 B1 ("Ohtake et al."). This rejection is respectfully traversed.

Ohtake et al. disclose an additive for the hydroconversion of a heavy hydrocarbon oil, which is a suspension of (a) a carbon black having an average primary particle size of from about 1 to about 200 nm, and (b) a solution comprising at least one molybdenum compound selected from the group consisting of a heteropolyacid containing a molybdenum atom as the polyatom and transition metal salts thereof, dissolved in an oxygen-containing polar solvent. Ohtake et al. further disclose that the weight amount of the molybdenum compound calculated as weight of

molybdenum is smaller than the weight amount of said carbon black. By employing carbon black in the suspension additive of Ohtake et al., the resulting suspension will be opaque, i.e., not clear or not transmitting or reflecting light or radiant energy. This is acknowledged by the Examiner in the Office Action which states that the compositions of Ohtake et al. will give a milky color. One skilled in the art of chemistry would readily understand that a milky colored suspension is opaque.

In contrast to the presently claimed invention, Ohtake et al. fail to disclose a stable colloidal suspension as presently recited in amended Claims 1 and 18, which recite, *inter alia*, a "stable colloidal suspension comprising: (a) a dispersed phase comprising a major amount of one or more dispersed hydrated polymeric compounds selected from the group consisting of polymolybdates, polytungstates, polyvanadates, polyniobates, polytantalates, polyuranates, and mixtures thereof; and, (b) an oil phase comprising one or more dispersing agents and a diluent oil, wherein the stable colloidal suspension is substantially clear." Instead, Ohtake et al. employ carbon black in the suspension thereby resulting in an opaque suspension. Applicants, however, form a stable colloidal suspension which is substantially clear by controlling the dehydration of the suspension such that the turbidity of the emulsion changes from turbid to substantially clear. (See, e.g., page 29, lines 7-16 of the specification). In lacking any disclosure of the presently recited stable colloidal suspension comprising: (a) a dispersed phase comprising *a major amount* of one or more dispersed hydrated polymeric compounds selected from the group consisting of polymolybdates, polytungstates, polyvanadates, polyniobates, polytantalates, polyuranates, and mixtures thereof; and, (b) an oil phase comprising one or more dispersing agents and a diluent

oil, wherein the stable colloidal suspension is substantially clear", amended Claims 1 and 18 are believed to be patentable over Ohtake et al.

Ohtake et al. likewise fail to disclose a lubricant composition comprising a major amount of an oil of lubricating viscosity and a minor effective amount of the stable colloidal suspension as presently recited in Claims 35-37 and 39, which ultimately depend from amended Claim 1. Instead, Ohtake et al. disclose an additive for the hydroconversion of a heavy hydrocarbon oil. One skilled in the art of lubricating oil would readily understand that a heavy hydrocarbon oil is not an oil of lubricating viscosity. Moreover, as discussed above, Ohtake et al. employ carbon black in the suspension thereby resulting in an opaque suspension. Applicants, however, employ a stable colloidal suspension which is substantially clear by controlling the dehydration of the suspension such that the turbidity of the emulsion changes from turbid to substantially clear. In lacking any disclosure of the presently claimed lubricant composition comprising a major amount of an oil of lubricating viscosity and a minor effective amount of the stable colloidal suspension, Claims 35-37 and 39 are believed to be patentable over Ohtake et al.

Ohtake et al. likewise fail to disclose a process for preparing a stable colloidal suspension as presently recited in amended Claim 43, which recites, *inter alia*, "mixing, under agitation, an (a) aqueous solution comprising (i) one or more monomeric compounds selected from the group consisting of molybdenum, tungsten, and vanadium containing compounds and (ii) an effective amount of an acid capable of at least partially polymerizing the one or more monomeric compounds; (b) one or more dispersing agents and (c) a diluent oil to form a micro emulsion; and, heating the micro emulsion to a temperature to remove sufficient water so as to produce a

stable colloidal suspension". Nor does Ohtake et al. disclose a stable colloidal suspension which is substantially clear as presently recited in amended Claim 43.

Rather, Ohtake et al. disclose a suspension additive of (a) a carbon black having an average primary particle size of from about 1 to about 200 nm, and (b) a solution comprising at least one molybdenum compound selected from the group consisting of a heteropolyacid containing a molybdenum atom as the polyatom and transition metal salts thereof, dissolved in an oxygen-containing polar solvent. Ohtake et al. further disclose in Example 16 that the additive can be formed by adding ascorbic acid to advance the 4-electron reduction action. However, ascorbic acid is a weak acid which is not capable of at least partially polymerizing the one or more monomeric compounds selected from the group consisting of molybdenum, tungsten, and vanadium containing compounds. An acid capable of at least partially polymerizing the one or more monomeric compounds selected from the group consisting of molybdenum, tungsten, and vanadium containing compounds is a strong acid such as a mineral acid, e.g., boric acid. This is nowhere disclosed in Ohtake et al.

Moreover, as discussed above, Ohtake et al. employ carbon black in the suspension thereby resulting in an opaque suspension. Applicants, however, form a stable colloidal suspension which is substantially clear by controlling the dehydration of the suspension such that the turbidity of the emulsion changes from turbid to substantially clear. In lacking any disclosure of the presently recited process for preparing a stable colloidal suspension comprising: (a) a dispersed phase comprising a major amount of one or more dispersed hydrated polymeric compounds selected from the group consisting of polymolybdates, polytungstates and polyvanadates; and, (b) an oil phase comprising one or more dispersing agents and a diluent oil,

wherein the stable colloidal suspension is substantially clear", amended Claim 43 is believed to be patentable over Ohtake et al.

For the foregoing reasons, amended Claims 1-11, 14, 18-23, 26, 30-37, 39-51, 54 and 58-62 are believed not to be anticipated by Ohtake et al. Therefore, withdrawal of the rejection of Claims 1-11, 14, 18-23, 26, 30-37, 39-51, 54 and 58-62 under 35 U.S.C. §102(b) is respectfully requested.

The Examiner has rejected Claims 1-75 under 35 U.S.C. §103(a) as being obvious over Ohtake et al. European Patent No. EP 271337 B1 ("Ohtake et al.") in view of Cyphers et al. U.S. Patent No. 3,223,625 ("Cyphers et al.") and Blackborow et al. European Patent No. EP 602863 ("Blackborow et al."). This rejection is respectfully traversed.

Nowhere does Ohtake et al. disclose or suggest a stable colloidal suspension as presently recited in amended Claims 1, 18, 43 and 63, which recite, *inter alia*, a "stable colloidal suspension comprising: (a) a dispersed phase comprising a major amount of one or more dispersed hydrated polymeric compounds selected from the group consisting of polymolybdates, polytungstates, polyvanadates, polyniobates, polytantalates, polyuranates, and mixtures thereof; and, (b) an oil phase comprising one or more dispersing agents and a diluent oil, wherein the stable colloidal suspension is substantially clear."

Rather, Ohtake et al. disclose an additive which is a suspension of (a) a carbon black having an average primary particle size of from about 1 to about 200 nm, and (b) a solution comprising at least one molybdenum compound selected from the group consisting of a heteropolyacid containing a molybdenum atom as the polyatom and transition metal salts thereof, dissolved in an oxygen-containing polar solvent. Ohtake et al. further disclose that the

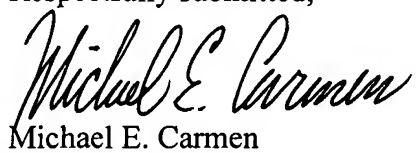
weight amount of the molybdenum compound calculated as weight of molybdenum is smaller than the weight amount of the carbon black. By employing carbon black in the suspension additive of Ohtake et al., the resulting suspension will be opaque, i.e., not clear or not transmitting or reflecting light or radiant energy. Ohtake et al. further disclose an additive for the hydroconversion of a heavy hydrocarbon oil.

Applicants, however, have discovered a substantially clear, stable colloidal suspension useful as a lubricating oil additive, e.g., an anti-wear agent, in lubricating oil compositions. A colloidal suspension as a lubricating oil additive in a lubricating oil composition is completely different than a colloidal suspension for hydroconversion of a heavy hydrocarbon oil. Moreover, one skilled in the art of lubricating oils would not look to a colloidal suspension which contains carbon black for use as a lubricating oil additive in a lubricating oil composition. Carbon black is an undesirable component in an internal combustion engine as it, for example, inhibits proper flow of the lubricating oil, thereby impairing its effectiveness. Thus, one skilled in the art would be led away from the disclosure of Ohtake et al. which requires carbon black in the suspension additive in order to hydrocrack heavy hydrocarbon oils into lighter oil products.

Cyphers et al. and Blackborow et al. do not cure and are not cited as curing the deficiencies of Ohtake et al. Rather, both Cyphers et al. and Blackborow et al. are merely cited for the disclosure of dispersing agents. Since Ohtake et al., Cyphers et al. and Blackborow et al., alone or in combination, do not disclose or suggest a stable colloidal suspension as presently recited in amended Claims 1, 18, 43 and 63, Claims 1-75 are believed to be nonobvious, and therefore patentable, over Ohtake et al., Cyphers et al. and Blackborow et al. Accordingly, withdrawal of the rejection is respectfully requested.

For the foregoing reasons, amended Claims 1-75 as presented herein are believed to be in condition for allowance. Such early and favorable action is earnestly solicited.

Respectfully submitted,



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